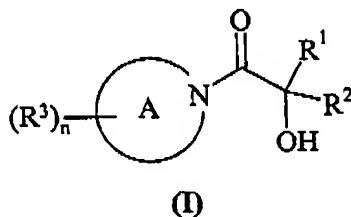


**IN THE CLAIMS:**

1 (currently amended and reformatted): A compound of formula (I):



wherein:

Ring A is a ~~nitrogen linked mono or bicyclic heterocyclic ring; wherein if said heterocyclic group contains an -NH- moiety that nitrogen is~~ piperazinyl optionally substituted on nitrogen by R<sup>4</sup>-D-;

R<sup>1</sup> and R<sup>2</sup> are independently C<sub>k</sub>alkyl optionally substituted by 1 to 2k+1 atoms selected from fluoro and chloro wherein k is 1-3;

or R<sup>1</sup> and R<sup>2</sup> together with the carbon atom to which they are attached, form a C<sub>m</sub>cycloalkyl ring optionally substituted by 1 to 2m-2 fluorine atoms wherein m is 3-5;

R<sup>3</sup> is a substituent on carbon and is halo, hydroxy, cyano, formyl, amino, nitro, carboxy, carbamoyl, ureido, thiol, sulphamoyl or R<sup>5</sup>-E-;

R<sup>4</sup> is C<sub>1-6</sub>alkyl, phenyl or a heterocyclic group, wherein in R<sup>4</sup> any C<sub>1-6</sub>alkyl, phenyl or heterocyclic groups (on a ring carbon) may be optionally substituted by one or more R<sup>6</sup> and if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R<sup>8</sup>;

D is -C(O)-, -N(R<sup>9</sup>)C(O)-, -S(O)<sub>2</sub>-, -NS(O)<sub>2</sub>-, -OC(O)- or D is a direct bond;

R<sup>5</sup> is C<sub>1-6</sub>alkyl, C<sub>2-6</sub>alkenyl, C<sub>2-6</sub>alkynyl, C<sub>3-6</sub>cycloalkyl, phenyl, naphthyl or a heterocyclic group, wherein in R<sup>5</sup> any C<sub>1-6</sub>alkyl, C<sub>2-6</sub>alkenyl, C<sub>2-6</sub>alkynyl, C<sub>3-6</sub>cycloalkyl, phenyl, naphthyl or heterocyclic groups (on a ring carbon) may be optionally substituted by one or more R<sup>6</sup> and if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R<sup>8</sup>;

E is -O-, -N(R<sup>9</sup>)-, -C(O)-, -N(R<sup>9</sup>)C(O)-, -C(O)N(R<sup>9</sup>)-, -S(O)<sub>a</sub>- wherein a is 0-2, -OC(O)-, -C(O)O-, -N(R<sup>9</sup>)C(O)O-, -OC(O)N(R<sup>9</sup>)-, -C(S)N(R<sup>9</sup>)-, -N(R<sup>9</sup>)C(S)-, -SO<sub>2</sub>N(R<sup>9</sup>)-,

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$-N(R^9)SO_2-$ ,  $-N(R^9)C(O)N(R^9)-$ ,  $-N(R^9)C(S)N(R^9)-$ ,  $-SO_2NHC(O)-$ ,  $-SO_2N(R^9)C(O)-$ ,  
 $-C(O)NHSO_2-$  or E is a direct bond;

*a'*  $R^6$  is trifluoromethyl,  $C_{1-6}$ alkyl, halo, hydroxy, trifluoromethoxy, cyano,  $C_{1-6}$ alkoxy, formyl,  $C_{1-6}$ alkanoyl,  $C_{1-6}$ alkanoyloxy, amino,  $N-(C_{1-6}alkyl)amino$ ,  $N-(C_{1-6}alkyl)_2amino$ ,  $C_{1-6}alkanoylamino$ ,  $C_{1-6}alkanoyl(N-C_{1-6}alkyl)amino$ , nitro, carboxy, carbamoyl,  $C_{1-6}alkoxycarbonyl$ , thiol,  $C_{1-6}alkylsulphanyl$ ,  $C_{1-6}alkylsulphinyl$ ,  $C_{1-6}alkylsulphonyl$ ,  $C_{1-6}alkylsulphonylamino$ , sulphamoyl,  $N-(C_{1-6}alkyl)aminosulphonyl$ ,  $N-(C_{1-6}alkyl)_2aminosulphonyl$ ,  $N-(C_{1-6}alkyl)carbamoyl$ ,  $N-(C_{1-6}alkyl)_2carbamoyl$ , ureido,  $N'-(C_{1-6}alkyl)ureido$  or  $N'-(C_{1-6}alkyl)_2ureido$ ,  $C_{2-6}alkenyl$ ,  $C_{2-6}alkynyl$  or  $C_{3-6}cycloalkyl$ , naphthyl, phenyl or a heterocyclic group wherein in  $R^6$  any  $C_{1-6}alkyl$ ,  $C_{2-6}alkenyl$ ,  $C_{2-6}alkynyl$ ,  $C_{3-6}cylcoalkyl$ , naphthyl, phenyl or heterocyclic groups (on a ring carbon) may be optionally substituted by one or more  $R^7$  and if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from  $R^8$ ;

$R^7$  is trifluoromethyl, cyano,  $C_{1-6}alkyl$ , halo, hydroxy, trifluoromethoxy,  $C_{1-6}alkoxy$ , formyl,  $C_{1-6}alkanoyl$ ,  $C_{1-6}alkanoyloxy$ , amino,  $N-(C_{1-6}alkyl)amino$ ,  $N-(C_{1-6}alkyl)_2amino$ ,  $C_{1-6}alkanoylamino$ ,  $C_{1-6}alkanoyl(N-C_{1-6}alkyl)amino$ , nitro, carboxy, carbamoyl,  $C_{1-6}alkoxycarbonyl$ , thiol,  $C_{1-6}alkylsulphanyl$ ,  $C_{1-6}alkylsulphinyl$ ,  $C_{1-6}alkylsulphonyl$ ,  $C_{1-6}alkylsulphonylamino$ , sulphamoyl,  $N-(C_{1-6}alkyl)aminosulphonyl$ ,  $N-(C_{1-6}alkyl)_2aminosulphonyl$ ,  $N-(C_{1-6}alkyl)carbamoyl$ ,  $N-(C_{1-6}alkyl)_2carbamoyl$ ,  $C_{2-6}alkenyl$ ,  $C_{2-6}alkynyl$ ,  $C_{3-6}cycloalkyl$  or a heterocyclic group (optionally substituted by one or more  $R^{11}$ ), and wherein in  $R^7$  any  $C_{1-6}alkyl$ ,  $C_{2-6}alkenyl$ ,  $C_{2-6}alkynyl$  or  $C_{3-6}cylcoalkyl$  groups may be optionally substituted by one or more groups selected from  $R^{12}$ ;

$R^8$  is  $C_{1-6}alkyl$ ,  $C_{1-6}alkanoyl$ ,  $C_{1-6}alkylsulphonyl$ ,  $C_{1-6}alkoxycarbonyl$ , carbamoyl,  $N-(C_{1-6}alkyl)carbamoyl$ ,  $N,N-(C_{1-6}alkyl)_2carbamoyl$ , benzoyl, (heterocyclic group)carbonyl, phenylsulphonyl, (heterocyclic group)sulphonyl, phenyl or a carbon linked heterocyclic group, and wherein in  $R^8$  any  $C_{1-6}alkyl$ , phenyl or heterocyclic group (on a ring carbon) may be optionally substituted by one or more  $R^6$ , and if a heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from  $R^{11}$ ;

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*Q1*  $R^9$  is hydrogen or  $C_{1-6}$ alkyl optionally substituted by one or more  $R^{10}$  with the proviso that

$R^{10}$  is not a substituent on the carbon attached to a nitrogen atom;

$R^{10}$  is halo, hydroxy, amino, cyano, nitro, trifluoromethyl, trifluoromethoxy,  $C_{1-6}$ alkyl,  $C_{2-6}$ alkenyl,  $C_{2-6}$ alkynyl,  $N$ -( $C_{1-6}$ alkyl)amino,  $N$ -( $C_{1-6}$ alkyl)<sub>2</sub>amino,  $C_{1-6}$ alkanoylamino,  $C_{1-6}$ alkanoyl( $N$ - $C_{1-6}$ alkyl)amino,  $C_{1-6}$ alkylsulphonylamino,  $C_{1-6}$ alkylsulphonyl( $N$ - $C_{1-6}$ alkyl)amino, thiol,  $C_{1-6}$ alkylsulphanyl,  $C_{1-6}$ alkylsulphinyl,  $C_{1-6}$ alkylsulphonyl, sulphamoyl,  $N$ -( $C_{1-6}$ alkyl)aminosulphonyl,  $N$ -( $C_{1-6}$ alkyl)<sub>2</sub>aminosulphonyl, carboxy, carbamoyl,  $N$ -( $C_{1-6}$ alkyl)carbamoyl,  $N$ -( $C_{1-6}$ alkyl)<sub>2</sub>carbamoyl,  $C_{1-6}$ alkoxycarbonyl,  $C_{1-6}$ alkanoyl or formyl;

$R^{11}$  is  $C_{1-6}$ alkyl,  $C_{1-6}$ alkanoyl,  $C_{1-6}$ alkylsulphonyl,  $C_{1-6}$ alkoxycarbonyl, carbamoyl,  $N$ -( $C_{1-6}$ alkyl)carbamoyl,  $N,N$ -( $C_{1-6}$ alkyl)<sub>2</sub>carbamoyl,  $C_{1-6}$ alkoxy $C_{1-6}$ alkanoyl, phenyl $C_{1-6}$ alkyl, benzoyl, phenyl $C_{1-6}$ alkanoyl, phenyl $C_{1-6}$ alkoxycarbonyl or phenylsulphonyl and wherein in  $R^{11}$  any  $C_{1-6}$ alkyl group can be optionally substituted by one or more  $R^{13}$ ;

$R^{12}$  is halo, hydroxy,  $N$ -methylpiperazinyl,  $N$ -acetyl piperazinyl, morpholino, piperidino, cyano, amino,  $N,N$ -dimethylamino, acetamido, carbamoyl, carboxy, methanesulphonyl or sulphamoyl;

$R^{13}$  is halo, hydroxy, cyano, amino,  $N,N$ -dimethylamino, acetamido, carbamoyl, carboxy, methanesulphonyl or sulphamoyl;

$n$  is 0-5; wherein the values of  $R^3$  may be the same or different;

or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof;

→ with the proviso that if  $R^1$  is methyl,  $R^2$  is trifluoromethyl and Ring A is piperazin-1-yl then ( $R^3$ )<sub>n</sub> is not i) 4-cyanobenzoyl, ii) 2-methyl-4-benzyloxycarbonyl, iii) 2-methyl, iv) 2-methyl-4-cyanobenzoyl, v) 2,5-dimethyl-4-benzyl, vi) 2,5-dimethyl or vii) 2,5-dimethyl-4-cyanobenzoyl.

2 (original): A compound of formula (I) according to claim 1 wherein one of  $R^1$  and  $R^2$  is methyl and the other is trifluoromethyl;  
 or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

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Q' 3 (cancelled).

4 (currently amended): A compound of formula (I) according to claim 1 ~~any one of claims 1 to 3~~ wherein R<sup>3</sup> is a substituent on carbon and is selected from amino, methyl, 4-mesylphenylsulphonyl, 4-methylthiophenylthio, 4-fluorobenzoyl and 4-cyanobenzoylamino; or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

5 (currently amended): A compound of formula (I) according to claim 1 ~~any one of claims 1 to 4~~ wherein R<sup>4</sup> is C<sub>1-4</sub>alkyl, phenyl {optionally substituted with one or more *t*-butyl, isopropyl, nitro, halo, *N,N*-dimethylcarbamoyl, *N,N*-dimethylamino, 2-hydroxyethylamino, cyano, acetyl, methoxy or carboxy} or thienyl; or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

6 (currently amended): A compound of formula (I) according to claim 1 ~~any one of claims 1 to 5~~ wherein D is -SO<sub>2</sub>- or -C(O)-; or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

7 (currently amended): A compound of formula (I) according to claim 1 ~~any one of claims 1 to 6~~ wherein n is 0 - 3; or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

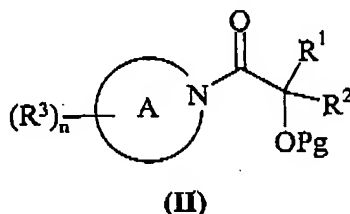
8 (original; reformatted): A compound of formula (I) selected from:  
(R)-[(2S,5R)-2-methyl-5-methyl-4-(4-carboxyphenylsulphonyl)-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine];  
(R)-[(2S,5R)-2-methyl-5-methyl-4-(4-dimethylcarbamoylphenylsulphonyl)-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine];  
(R)-[(2S,5R)-2-methyl-5-methyl-4-(4-fluorophenylsulphonyl)-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine];

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a<sup>1</sup> (R)-{(2S,5R)-2-methyl-5-methyl-4-[4-(2-hydroxyethylamino)phenylsulphonyl]-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine};  
 (R)-[(2S,5R)-2-methyl-5-methyl-4-(4-cyanophenylsulphonyl)-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine]; and  
 (R)-[(2S,5R)-2-methyl-5-methyl-4-(4-methoxyphenylsulphonyl)-1-(3,3,3-trifluoro-2-hydroxy-2-methylpropionyl)piperazine];  
 or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof.

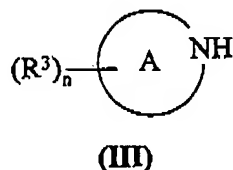
9 (currently amended and reformatted): A process for preparing a compound of formula (I) or a pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof, which process (in which variable groups are as defined in claim 1 for formula (I) unless otherwise stated) comprises of:

(a) deprotecting a protected compound of formula (II):

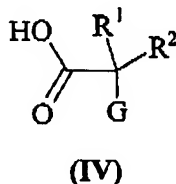


where Pg is an alcohol protecting group;

(b) coupling an amine of formula (III):



with an acid of formula (IV):



wherein G is a hydroxyl group;

(c) coupling an amine of formula (III) with an activated acid derivative of formula (IV)

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wherein G is a hydroxyl group which may be protected as an ester or ether;

a ✓ and thereafter if necessary:

- i) converting a compound of the formula (I) into another compound of the formula (I);
- ii) removing any protecting groups; or
- iii) forming a pharmaceutically acceptable salt or *in vivo* hydrolysable ester.

10 (currently amended): A pharmaceutical composition which comprises a compound of formula (I) according to any one of claims 1-2 and 4-8~~1-8~~, or a pharmaceutically acceptable salt or *in vivo* hydrolysable ester thereof in association with a pharmaceutically-acceptable diluent or carrier.

Claims 11-12 (cancelled).

Claim 13 (new): A method for the treatment of a disease state associated with reduced PDH activity, said method comprising administering to a warm-blooded animal in need thereof a PDH activity-elevating amount of a compound of the formula (I) or pharmaceutically acceptable salt or an *in vivo* hydrolysable ester thereof, as claimed in any one of claims 1-2 and 4-8.

Claim 14 (new): The method of claim 13 wherein said disease state is selected from the group consisting of diabetes mellitus, peripheral vascular disease and myocardial ischaemia.

Claim 15 (new): The method of claim 14 wherein said disease state is diabetes mellitus.

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